Figure 1

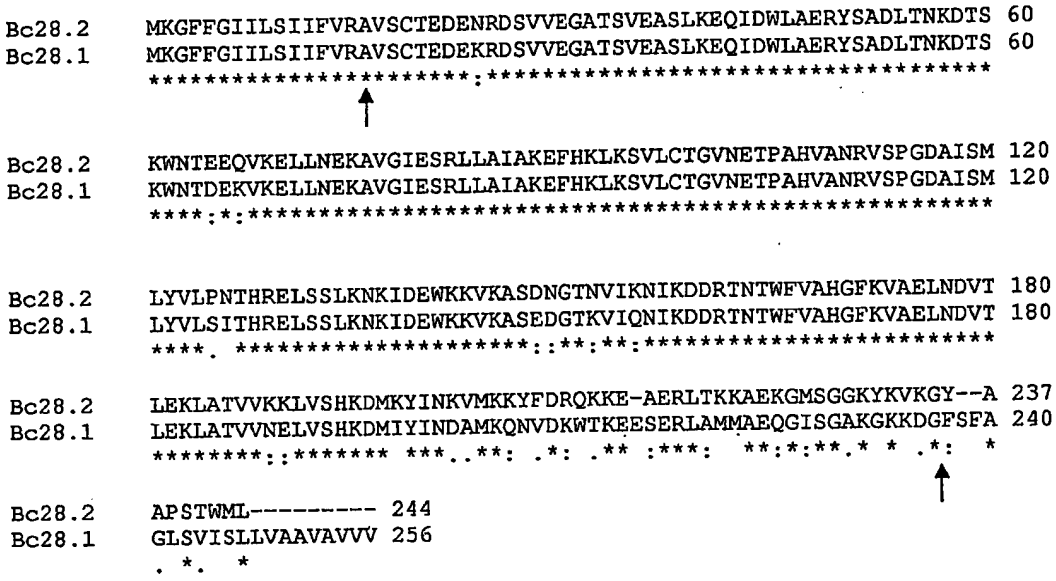
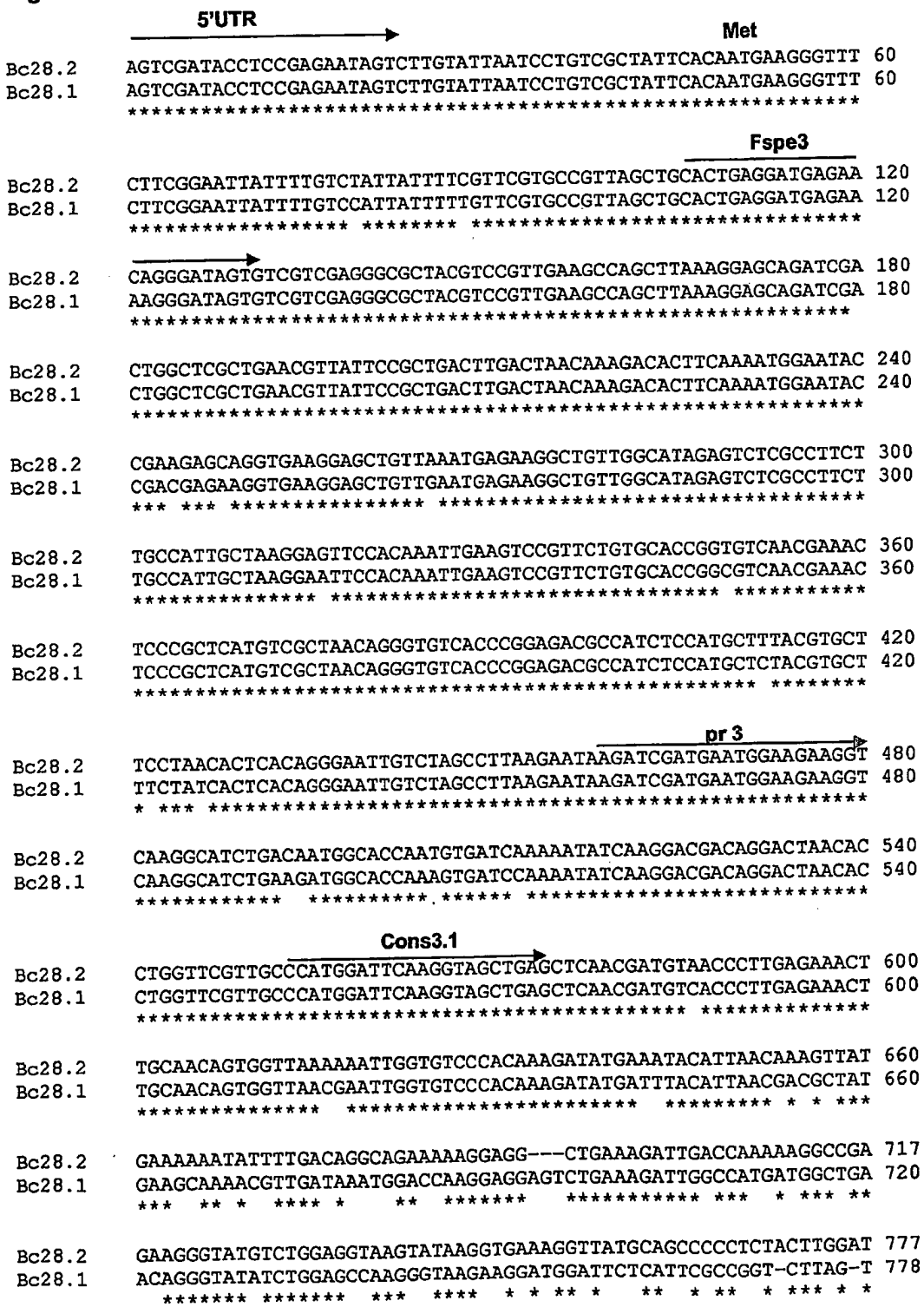

Bc28.2 MKGFFGIILSIIFVRAVSCTEDENRDSVVEGATSVEASLKEQIDWLAERYSADLTNKDTS 60
Bc28.1 MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERYSADLTNKDTS 60
Bc28.2 KWNTEEQVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
Bc28.1 KWNTDEKVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
Bc28.2 LYVLPNTHRELSSLKNKIDEWKKVKASDNGTNVIKNIKDDRTNTWFVAHGFKVAELNDVT 180
Bc28.1 LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFVAHGFKVAELNDVT 180
Bc28.2 LEKLATVVKKLVSHKDMKYINKVMKKYFDRQKKE-AERLTKKAEKGMSGGKYKVKGY--A 237
Bc28.1 LEKLATVVNELVSHKDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGFSFA 240
Bc28.2 APSTWML---------- 244
Bc28.1 GLSVISLLVAAVAVVV 256

Figure 2

```
A8          MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERYSADLTNKDTS 60
BcB         MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERYSADLTNKDTS 60
34.01       MKGFFGIILSIIFVRAVSCTEDEKRDTVVEGATSVEASLKEQIDWLAERYSADLTNKDTS 60
BcA         MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERYSADLTNKDTS 60
Robin       MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERYSADLTNKDTS 60
Castres     MKGFFGIILSIIFVRAVSCTEDEKRDSVVEGATSVEASLKEQIDWLAERYSADLTNKDTS 60
            ************************:**********************************

A8          KWNTDEKVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
BcB         KWNTDEQVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
34.01       KWNTNEQVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
BcA         KWNTDEKVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
Robin       KWNTDEKVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
Castres     KWNTDEQVKELLNEKAVGIESRLLAIAKEFHKLKSVLCTGVNETPAHVANRVSPGDAISM 120
            ****:*:*****************************************************

A8          LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFVAHGFKVAELNDVT 180
BcB         LYVLSITHRELSSLKNKIDEWKKVKASDNGTNVIQNIKDDRTNTWFVAHGFKVAELNDVT 180
34.01       LYVLSITHRELSSLKNKIDEWKKVKASDNGTNVIQNIKDDRTNTWFVAHGFKVAELNDVT 180
BcA         LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFVAHGFKVAELNDVT 180
Robin       LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFVAHGFKVAELNDVT 180
Castres     LYVLSITHRELSSLKNKIDEWKKVKASEDGTKVIQNIKDDRTNTWFVAHGFKVAELNDVT 180
                ****************************::**:****************************

A8          LEKLATVVNELVSHKDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGFSFA 240
BcB         LEKLATVVNELVSHNDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGFSFA 240
34.01       LEKVATVVNELVSHNDMIYINDAMKQNVDKWNKE-SERLAMMAEQGISGAKGKKDGFSFA 239
BcA         LEKLATVVNELVSHKDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGFSFA 240
Robin       LEKLATVVNELVSHKDMIYINDAMKQNVDKWTKEESERLAMMAEQGISGAKGKKDGFSFA 240
Castres     LEKLATVVNELVSHNDMIYINDAMKQNVDKWNKE-SERLAMMAEQGISGAKGKKDGFSFA 239
            ***:**********:****************.** *************************

A8          GLSVISLLVAAVAVVV 256
BcB         GLSVISLLVAAVAVVL 256
34.01       GLSVISLLVAAVAVVL 255
BcA         GLSVISLLVAAVAVVV 256
Robin       GLSVISLLVAAVAVVV 256
Castres     GLSVISLLVAAVAVVL 255
            ***************:
```

Figure 3


5'UTR
Met
Fspe3
pr 3
Cons3.1
Bc28.2 AGTCGATACCTCCGAGAATAGTCTTGTATTAATCCTGTCGCTATTCACAATGAAGGGTTT 60
Bc28.1 AGTCGATACCTCCGAGAATAGTCTTGTATTAATCCTGTCGCTATTCACAATGAAGGGTTT 60
Bc28.2 CTTCGGAATTATTTTGTCTATTATTTTCGTTCGTGCCGTTAGCTGCACTGAGGATGAGAA 120
Bc28.1 CTTCGGAATTATTTTGTCCATTATTTTTGTTCGTGCCGTTAGCTGCACTGAGGATGAGAA 120
Bc28.2 CAGGGATAGTGTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA 180
Bc28.1 AAGGGATAGTGTCGTCGAGGGCGCTACGTCCGTTGAAGCCAGCTTAAAGGAGCAGATCGA 180
Bc28.2 CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAAGACACTTCAAAATGGAATAC 240
Bc28.1 CTGGCTCGCTGAACGTTATTCCGCTGACTTGACTAACAAAGACACTTCAAAATGGAATAC 240
Bc28.2 CGAAGAGCAGGTGAAGGAGCTGTTAAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT 300
Bc28.1 CGACGAGAAGGTGAAGGAGCTGTTGAATGAGAAGGCTGTTGGCATAGAGTCTCGCCTTCT 300
Bc28.2 TGCCATTGCTAAGGAGTTCCACAAATTGAAGTCCGTTCTGTGCACCGGTGTCAACGAAAC 360
Bc28.1 TGCCATTGCTAAGGAATTCCACAAATTGAAGTCCGTTCTGTGCACCGGCGTCAACGAAAC 360
Bc28.2 TCCCGCTCATGTCGCTAACAGGGTGTCACCCGGAGACGCCATCTCCATGCTTTACGTGCT 420
Bc28.1 TCCCGCTCATGTCGCTAACAGGGTGTCACCCGGAGACGCCATCTCCATGCTCTACGTGCT 420
Bc28.2 TCCTAACACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT 480
Bc28.1 TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT 480
Bc28.2 CAAGGCATCTGACAATGGCACCAATGTGATCAAAAATATCAAGGACGACAGGACTAACAC 540
Bc28.1 CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC 540
Bc28.2 CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTAACCCTTGAGAAACT 600
Bc28.1 CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTCACCCTTGAGAAACT 600
Bc28.2 TGCAACAGTGGTTAAAAAATTGGTGTCCCACAAAGATATGAAATACATTAACAAAGTTAT 660
Bc28.1 TGCAACAGTGGTTAACGAATTGGTGTCCCACAAAGATATGATTTACATTAACGACGCTAT 660
Bc28.2 GAAAAAATATTTTGACAGGCAGAAAAAGGAGG---CTGAAAGATTGACCAAAAAGGCCGA 717
Bc28.1 GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA 720
Bc28.2 GAAGGGTATGTCTGGAGGTAAGTATAAGGTGAAAGGTTATGCAGCCCCCTCTACTTGGAT 777
Bc28.1 ACAGGGTATATCTGGAGCCAAGGGTAAGAAGGATGGATTCTCATTCGCCGGT-CTTAG-T 778

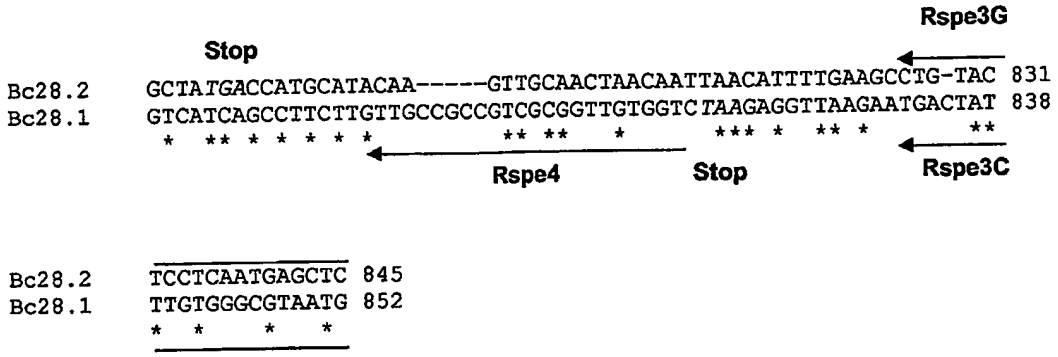
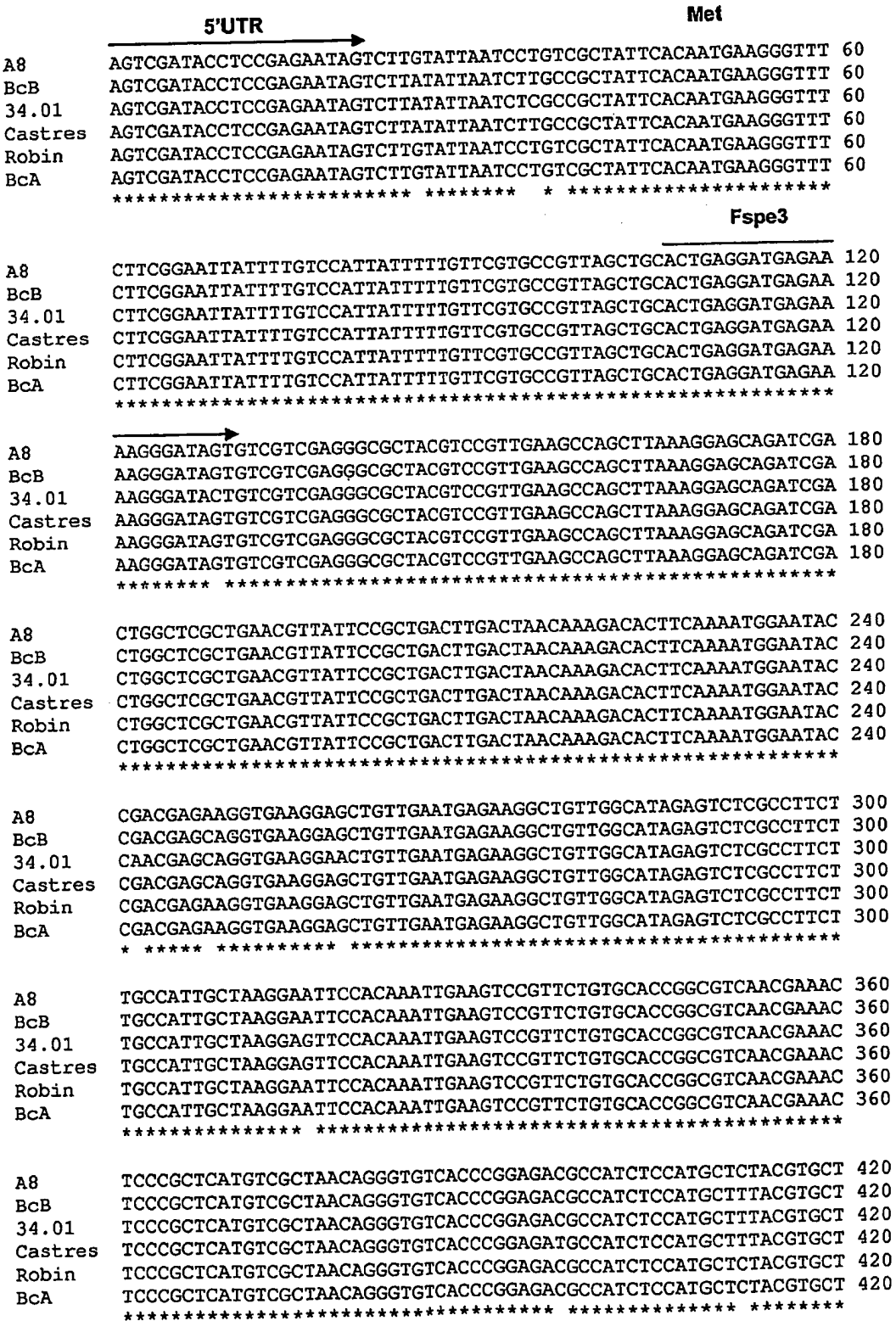

Rspe3G
Stop
Bc28.2 GCTATGACCATGCATACAA-----GTTGCAACTAACAATTAACATTTTGAAGCCTG-TAC 831
Bc28.1 GTCATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGGTCTAAGAGGTTAAGAATGACTAT 838
Rspe4
Stop
Rspe3C
Bc28.2 TCCTCAATGAGCTC 845
Bc28.1 TTGTGGGCGTAATG 852

Figure 4



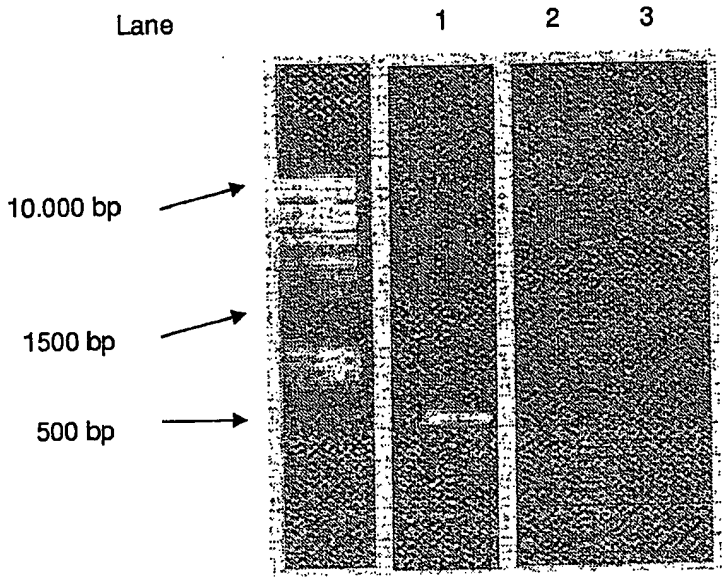
```
A8        TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT 480
BcB       TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT 480
34.01     TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT 480
Castres   TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT 480
Robin     TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT 480
BcA       TTCTATCACTCACAGGGAATTGTCTAGCCTTAAGAATAAGATCGATGAATGGAAGAAGGT 480
          ************************************************************

A8        CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC 540
BcB       CAAGGCATCTGACAATGGCACCAATGTGATCCAAAATATCAAGGACGACAGGACTAACAC 540
34.01     CAAGGCATCTGACAATGGCACCAATGTGATCCAAAATATCAAGGACGACAGGACTAACAC 540
Castres   CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC 540
Robin     CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC 540
BcA       CAAGGCATCTGAAGATGGCACCAAAGTGATCCAAAATATCAAGGACGACAGGACTAACAC 540
          ************ ********** **********************************

                                Cons3.1 ---------->
A8        CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTCACCCTTGAGAAACT 600
BcB       CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTAACCCTTGAGAAACT 600
34.01     CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTAACCCTTGAGAAAGT 600
Castres   CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTAACCCTTGAGAAACT 600
Robin     CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTCACCCTTGAGAAACT 600
BcA       CTGGTTCGTTGCCCATGGATTCAAGGTAGCTGAGCTCAACGATGTCACCCTTGAGAAACT 600
          ******************************************** ************ *

A8        TGCAACAGTGGTTAACGAATTGGTGTCCCACAAAGATATGATTTACATTAACGACGCTAT 660
BcB       TGCAACAGTGGTTAACGAATTGGTGTCCCACAATGATATGATCTACATTAACGACGCTAT 660
34.01     TGCAACAGTGGTTAACGAATTGGTGTCCCACAATGATATGATCTACATTAACGACGCTAT 660
Castres   TGCAACAGTGGTTAACGAATTGGTGTCCCACAATGATATGATCTACATTAACGACGCTAT 660
Robin     TGCAACAGTGGTTAACGAATTGGTGTCCCACAAAGATATGATTTACATTAACGACGCTAT 660
BcA       TGCAACAGTGGTTAACGAATTGGTGTCCCACAAAGATATGATTTACATTAACGACGCTAT 660
          ********************************* ******** *****************

A8        GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA 720
BcB       GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA 720
34.01     GAAGCAAAACGTTGATAAATGGAACAAGGAG---TCTGAAAGATTGGCCATGATGGCTGA 717
Castres   GAAGCAAAACGTTGATAAATGGAACAAGGAG---TCTGAAAGATTGGCCATGATGGCTGA 717
Robin     GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA 720
BcA       GAAGCAAAACGTTGATAAATGGACCAAGGAGGAGTCTGAAAGATTGGCCATGATGGCTGA 720
          ********************** *******   **************************

A8        ACAGGGTATATCTGGAGCCAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT 780
BcB       ACAGGGTATATCTGGAGCAAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT 780
34.01     ACAGGGTATATCTGGAGCAAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT 777
Castres   ACAGGGTATATCTGGAGCAAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT 777
Robin     ACAGGGTATATCTGGAGCCAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT 780
BcA       ACAGGGTATATCTGGAGCCAAGGGTAAGAAGGATGGATTCTCATTCGCCGGTCTTAGTGT 780
          ****************** ****************************************

                          Rspe4 <---------- Stop          Rspe3C <----------
A8        CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGGTCTAAGAGGTTAAGGATGACTATTT 840
BcB       CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGCTCTAAGAGGTTAAGGATGACTATTT 840
34.01     CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGCTCTAAGAGGTTAAGGATGACTATTT 837
Castres   CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGCTCTAAGAGGTTAAGGATGACTATTT 837
Robin     CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGGTCTAAGAGGTTAAGGATGACTATTT 840
BcA       CATCAGCCTTCTTGTTGCCGCCGTCGCGGTTGTGGTCTAAGAGGTTAAGAATGACTATTT 840
          ********************************** ************** **********
```

Rspe3C

A8	GTGGGCGTAATG	852
BcB	GTGGGCGTAATG	852
34.01	GTGGGCGTAATG	849
Castres	GTGGGCGTAATG	849
Robin	GTGGGCGTAATG	852
BcA	GTGGGCGTAATG	852
	************	

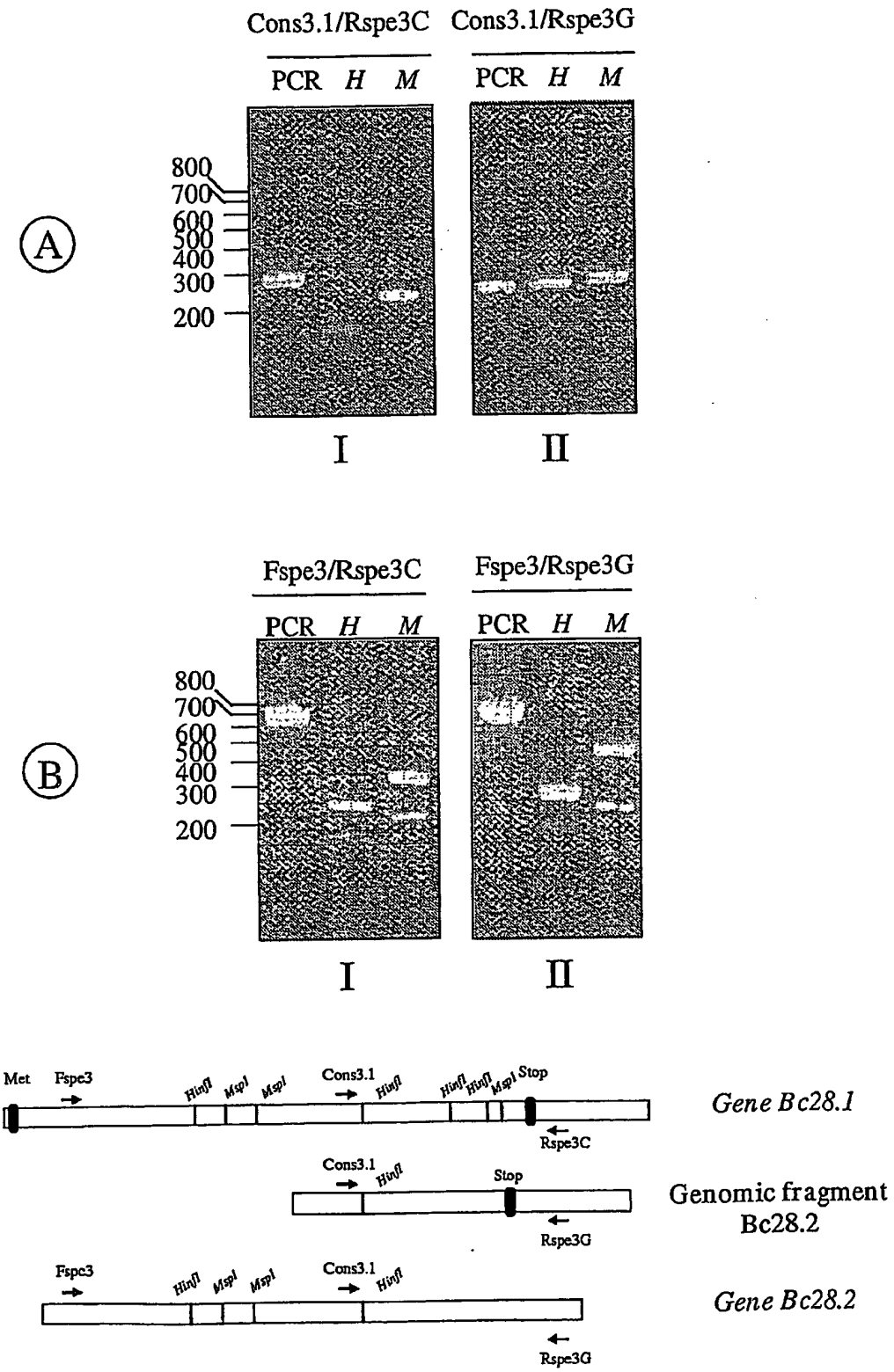
BEST AVAILABLE COPY

Figure 5



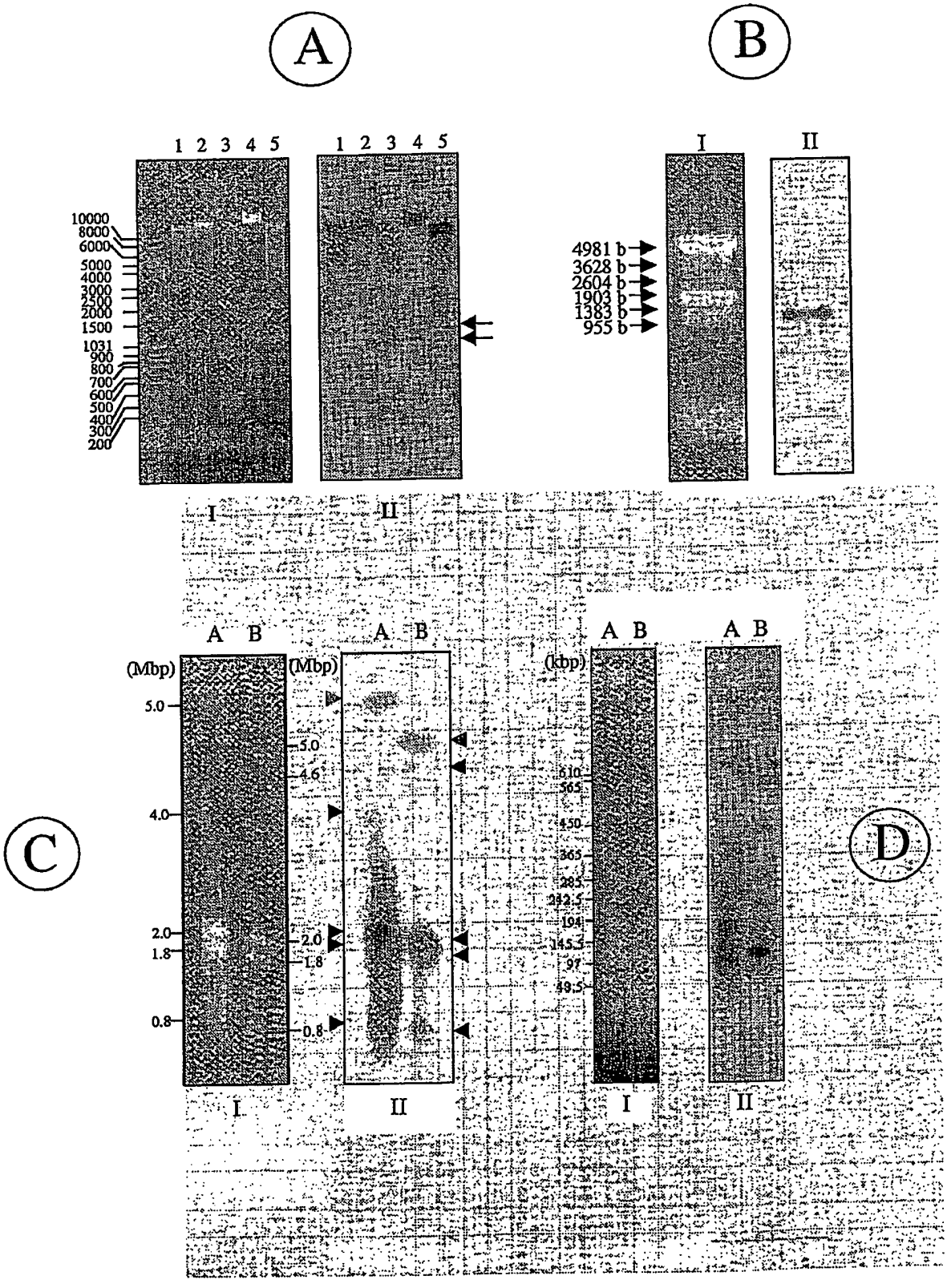
BEST AVAILABLE COPY

Figure 6



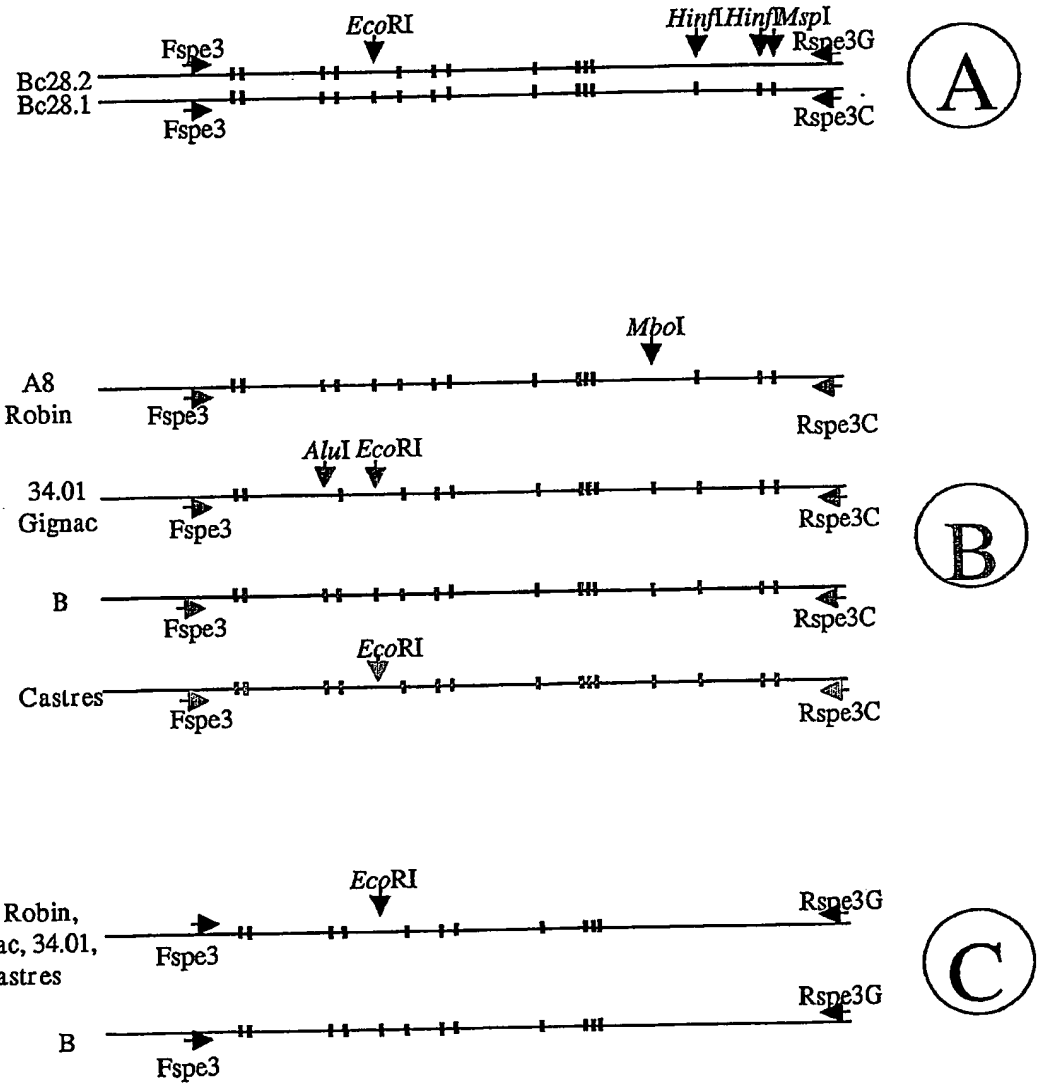
BEST AVAILABLE COPY

Figure 7



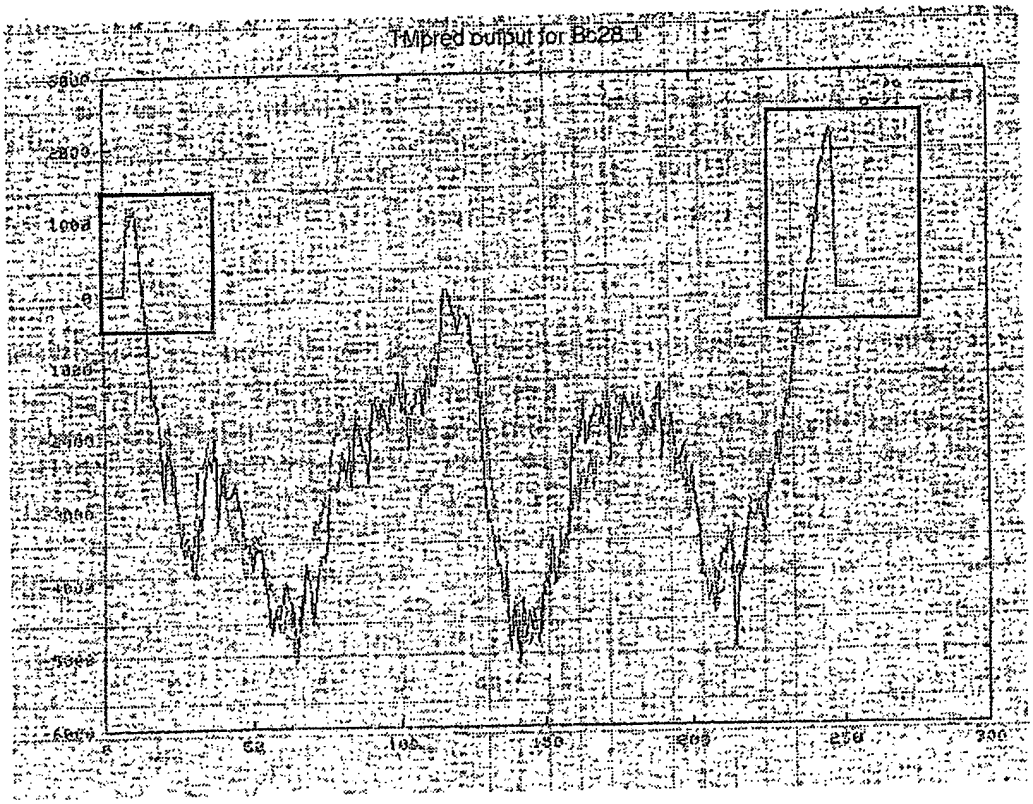
BEST AVAILABLE COPY

Figure 8



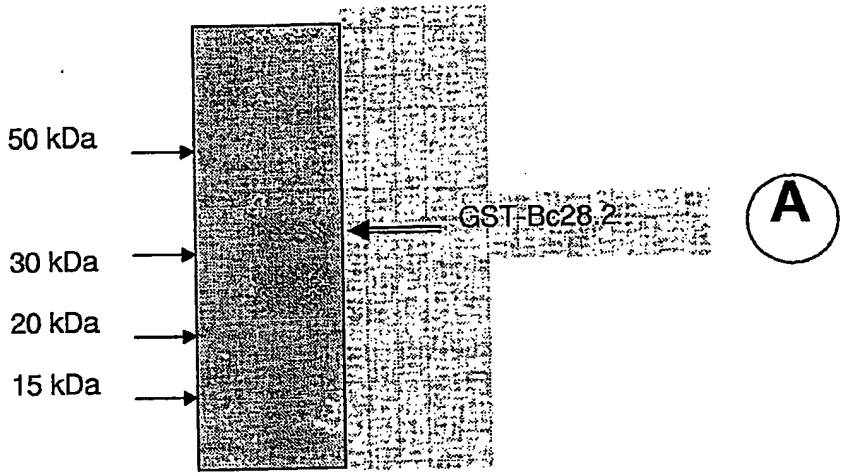
BEST AVAILABLE COPY

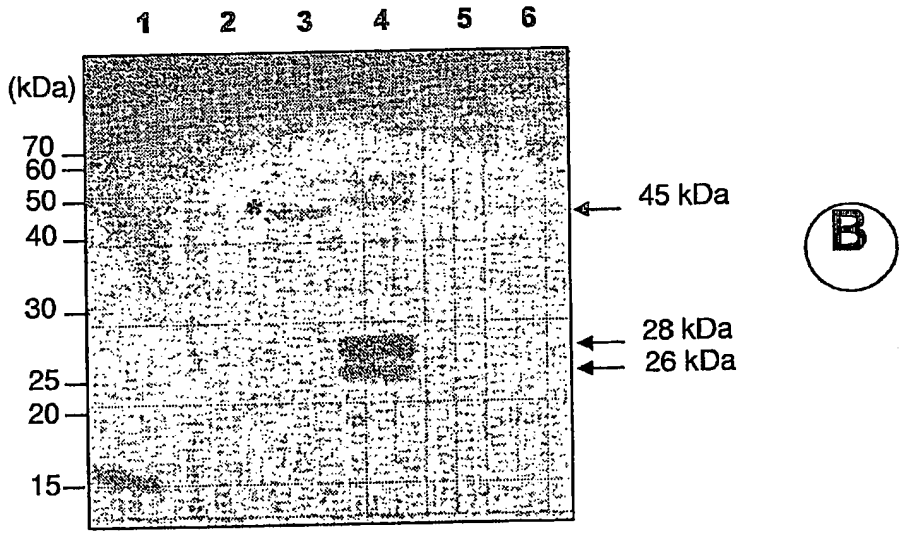
Figure 9



BEST AVAILABLE COPY

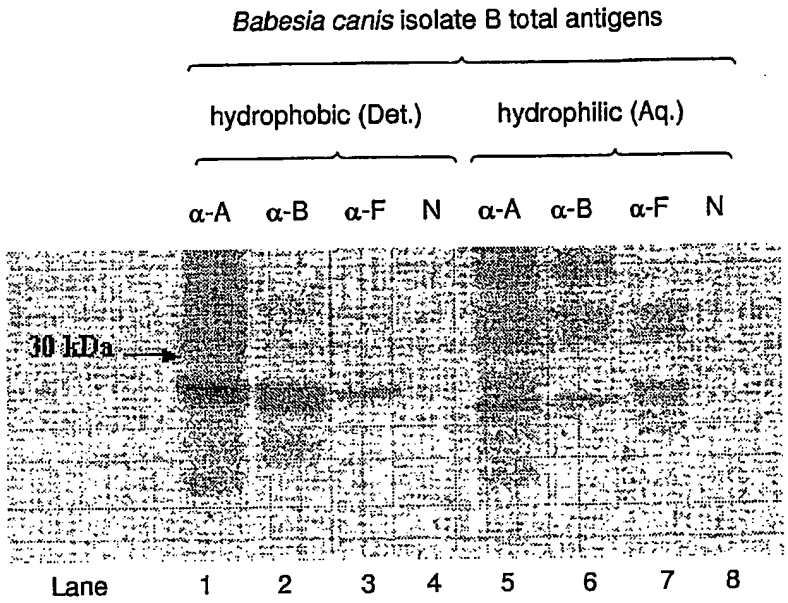
Figure 10





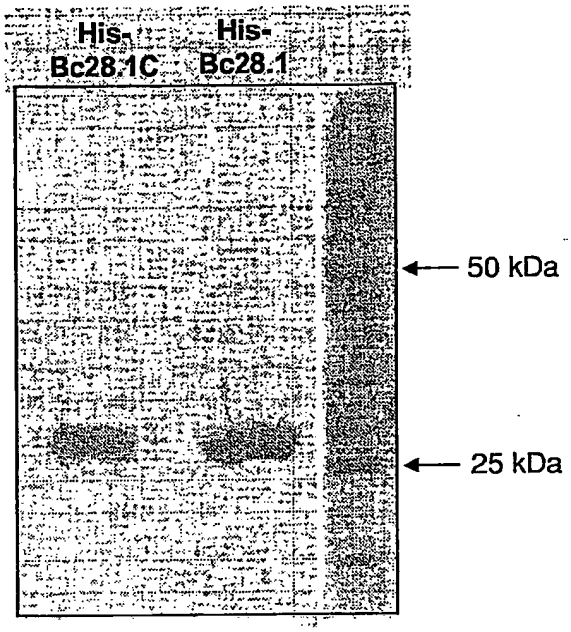
BEST AVAILABLE COPY

Figure 11



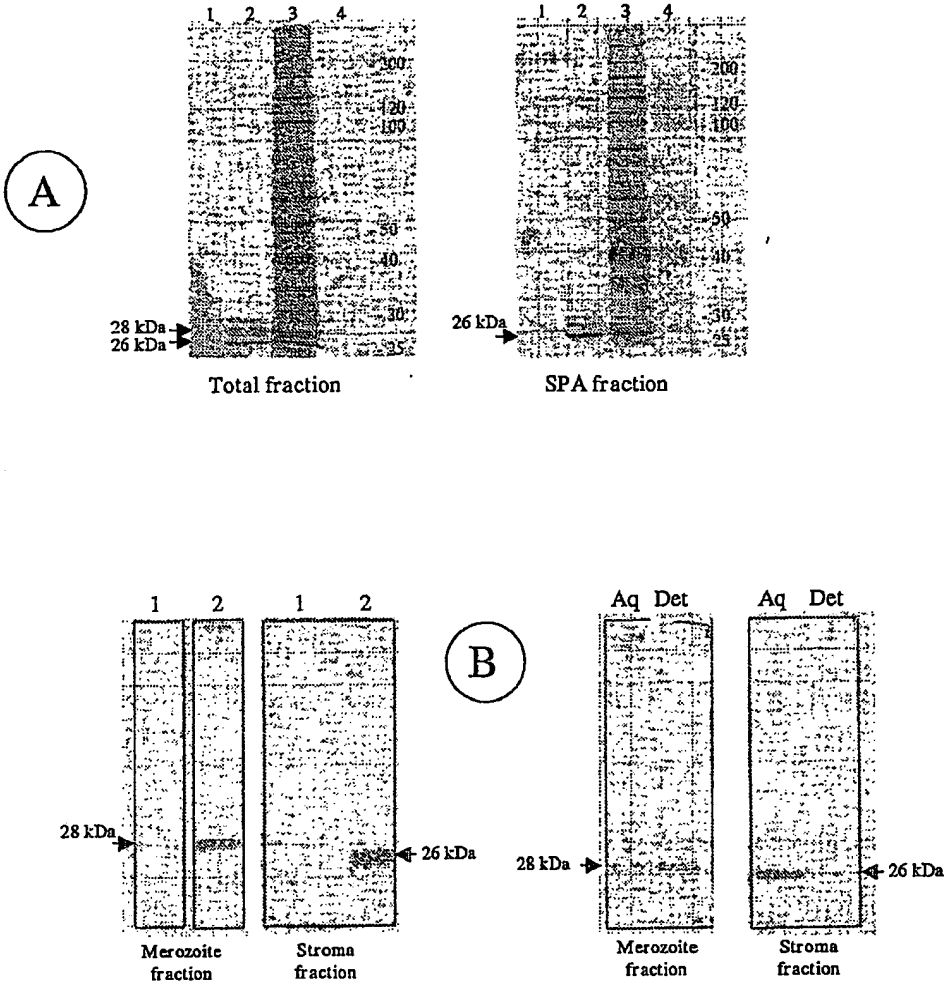
BEST AVAILABLE COPY

Figure 12



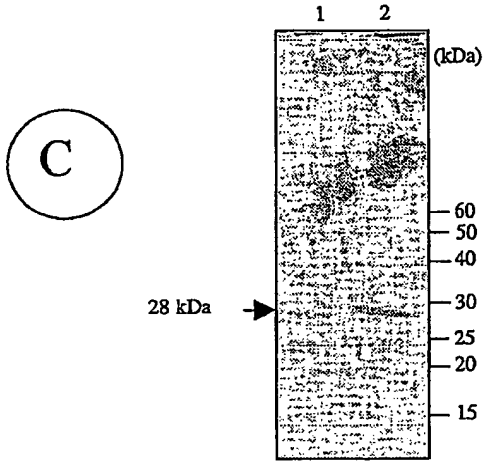
BEST AVAILABLE COPY

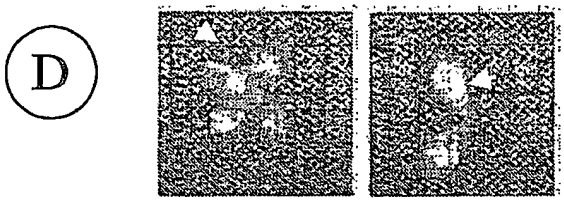
Figure 13



BEST AVAILABLE COPY

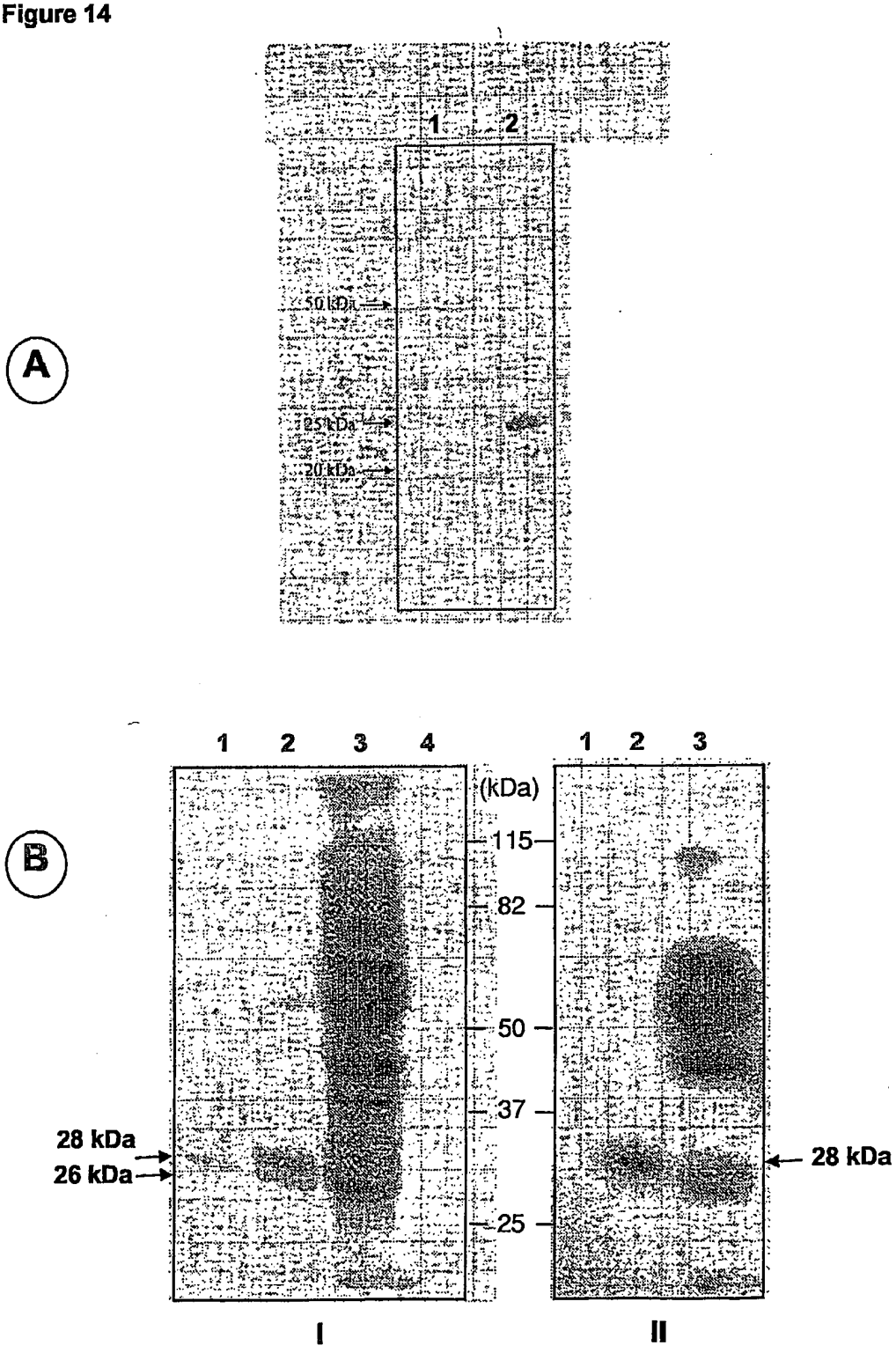
Figure 13 (continued)





BEST AVAILABLE COPY

Figure 14



BEST AVAILABLE COPY

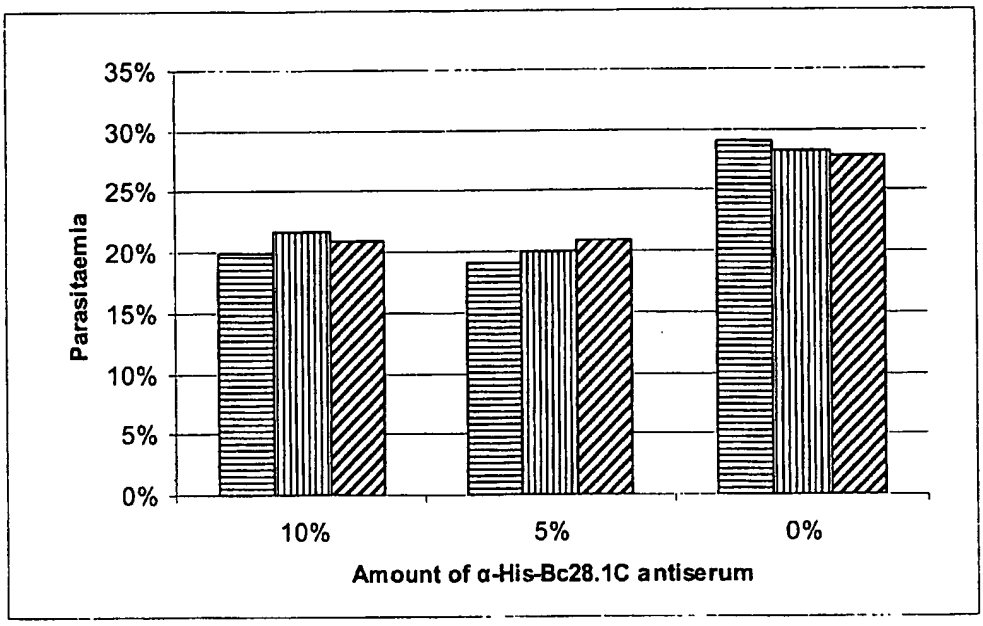



Figure 15